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Instructions for use

THE *CHALASTOGASTRA* OF KOREA (No. 1)

By

KAKU SATO

This paper is devoted to the descriptions of several new genera and species of the super-family *Chalastogastra* of which only a few species have been described from Korea. The writer hopes to monograph the *Chalastogastra* fauna of Korea when he has secured more material.

The writer has nearly two hundred species in his collection most of which were collected at Suigen, Korea. This material contains a number of species described from Japan proper and Europe, but most of the genera and species are new. There are probably any other new species in Korea which will be found in the future.

The nomenclature of the wings in the following descriptions follows the system proposed by ROHWER and GAHAN in 1916.

The types of new species described are in the writer's collection, otherwise mention will be made.

The writer wishes to express his appreciation to Dr. H. OKAMOTO and Prof. M. YANO for their valuable suggestions and encouragement in this study, to Messrs. G. TAKAGI, Y. HASEGAWA, T. KURISUE and K. IEIRI for specimens and to T. R. GARDNER for help in the English preparation.

Tomostethopsis SATO new genus

Belongs to *Phymatocerinae* defined by S. A. ROHWER; characterized by both calcariae of the anterior tibiae not lobed or bifurcate but simple and pointed, and closely related to *Tomostethus* and *Neotomostethus*.

Malar space distinctly present in the female, wanting in the male; clypeus truncate or nearly so; inner margins of the eyes, slightly in the female, distinctly in the male converging below; posterior orbits with very short carina below; pentagonal area present; antennae short, stout and filiform, pedicellum about as wide as long, the third distinctly longer than the fourth; mesepisternum with distinct prepectus; basal vein longer than the first recurrent and parallel with it; nervulus joining in the middle of the first discoidal cell; the basal portion of the anal vein curved upwards, forming an incomplete small cell; radiellian cell somewhat pointed apically; anellian cell long petiolate; a closed discoidellian cell present; the apical spurs of the anterior tibiae not lobed or bi-

furcate but simple; posterior tibiae much longer than the tarsi; posterior basitarsus subequal to the following three joints together; tarsal claws with a small inner tooth at middle.

Type of genus: *Tomostethopsis metallicus* SATO

***Tomostethopsis metallicus* SATO new species**

Female: Body length 7 mm.; length of antennae 3 mm.; length of anterior wing 7 mm.

Black, with a metallic green tinge; wings infuscated especially towards the base; stigma and nervures black.

Labrum with punctures and hairs; clypeus faintly convex, very slightly emarginate apically, with distinct punctures except apical portion which is almost impunctate; supraclypeal area trapezoidal in outline, a little concaved; supraclypeal foveae confluent with the antennal foveae forming a broad transversefoveae, median fovea very large, with distinct punctures, its lower margin somewhat carinated; antennal furrows nearly complete, widened below the crest; ocellar basin triangular in outline, defined laterally, somewhat confluent with median fovea below; a transverse depression just before the anterior ocellus; postocellar line shorter than the ocellocular line; postocellar area distinctly defined, convex, wider than long; frons more or less granular; vertex nearly impunctate; mesonotum very finely punctured; mesopleurae impunctate; stigma rounded below, truncate apically; third intercubitus straight, first recurrent received at middle of second, second recurrent at basal fifth of the third cubital cell; petiole of the anellan cell much longer than the nervellus; sheath straight above, slightly rounded below, nearly truncate apically.

Male: Body length 6 mm.; length of antennae 2.5 mm.; length of anterior wing 6 mm.

Differs from the above description of the female in having apex of femora and tibiae of the anterior pair brownish in front. Hypopygidium convex, rounded apically.

Described from four females (one, type) and seven males (one, allotype) collected by the writer April 1924-1925.

Type locality: Suigen, Korea.

***Atomostethus flavicollaris* SATO new species**

Female: Body length 5.5 mm.; length of antennae 2.5 mm.; length of anterior wing 6 mm.

Black with pronotum and tegulae yellow; labrum, apices of femora, basal half of tibiae and a small spot on the last tergite white; palpi, apical half of

tibiae, tarsi, posterior trochanters and margin of the eighth tergite more or less dark gray; wings slightly darkened towards the base, stigma and nervures black.

Labrum small, with whitish hairs; clypeus nearly truncate, slightly convex; supraclypeal area pear-shape in outline, convex; supraclypeal foveae deep, partly confluent with antennal foveae; antennal furrows nearly complete; median fovea poorly defined; postocellar line subequal to ocellocular line; postocellar area distinctly defined, convex, wider than long; posterior orbits not carinate; antennae comparatively long and filiform, pedicellum a little longer than wide, the third a little shorter than the fourth and fifth together, the last joint sub-equal to the preceding one; mesonotum with very minute punctures; mesopleurae impunctate, with fine pubescence; stigma rounded below, subtruncate apically; claws with a small erect tooth near base; abdomen smooth and shiny; sheath straight above, oblique below, obtusely pointed apically.

Described from a single specimen collected by the writer April 25, 1926.

Type locality: Suigen, Korea.

Zaphmatocera SATO new genus

Belongs to *Phymatocerinae* defined by S. A. ROHWER.

Malar space narrow but distinct; clypeus truncate anteriorly; inner margins of eyes very slightly converging below; face at the antennae much wider than the dorso-ventral diameter of eye; pentagonal area faintly indicated; posterior orbits not margined, with a furrow-like depression along the eye; antennae of female rather stout, shorter than abdomen, each joint beyond the fourth somewhat contracted basally, pedicellum distinctly wider than long, the third, fourth and fifth joints subequal in length; those of male long, almost as long as the body, distinctly bristle-like, somewhat compressed and covered with short, erect hairs, the third the shortest in the flagellum, the others subequal in length; mesepisternum with narrow but distinct prepectus; wings rather ample, inter-radius received at about the apical fifth of third cubital cell which is about as long as the first and second combined on the cubitus, third intercubitus straight, basal vein joining the origin of cubitus, longer than the first recurrent, and subparallel with it, nervulus about in middle of first discoidal cell, radiellian cell pointed and without appendiculation, recurrentella present, forming complete, closed discoidellian cell, anellian cell long petiolate, the petiole much longer than the nervellus; posterior tibiae much longer than tarsi, posterior basitarsus subequal to the following three joints; tarsal claws simple.

This genus is closely allied to *Phymatocera* DAHLBOM, from which may easily be separated by the presence of the malar space and the simple tarsal claws. With the presence of the malar space it is related to *Neotomostethus* MACGILLIVRAY, but is distinguished by the antennae and claws.

Type of genus: *Zaphymatocera typica* SATO

***Zaphymatocera typica* SATO new species**

Female: Body length 6 mm.; length of antennae 3 mm.; length of anterior wing 6.5 mm.

Black; the apices of mandibles testaceous; post-lateral angles of pronotum and tegulae white; apices of femora, tibiae and tarsi brownish white, apices of tibiae and tarsi more or less infuscated; the apical margin of eighth tergite very faintly whitish; wings clear hyaline, stigma and nervures black.

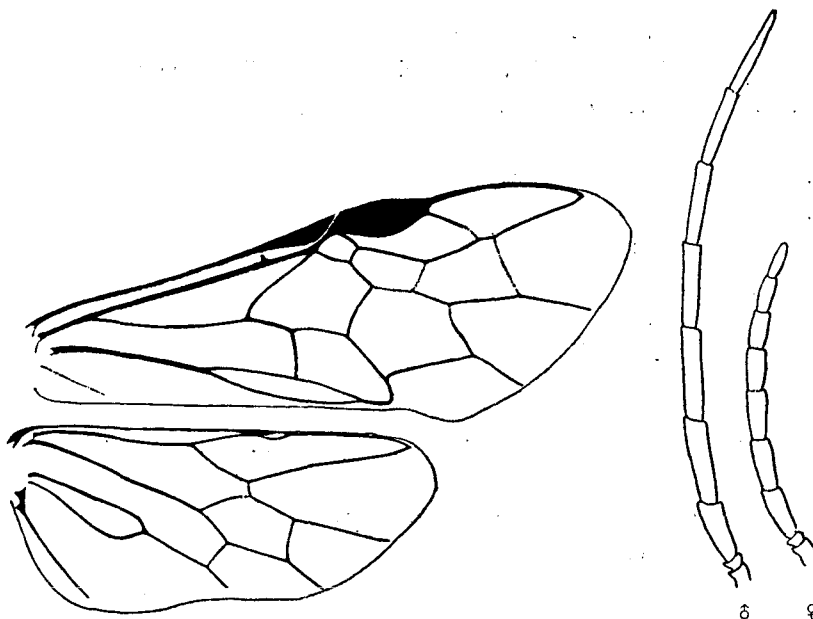


Fig. 1.

Zaphymatocera typica SATO (♀)

Fig. 2.

Zaphymatocera typica SATO

Labrum finely punctured and with brownish pubescence; clypeus flat, with fine punctures except its apical margin; supraclypeal area trapezoidal in outline; supraclypeal foveae confluent with antennal foveae; median fovea large and distinct; ocellar basin faintly indicated; antennal furrows nearly complete, interrupted at the crest; there are broad depressed parts between ocelli and eye; ocelli in a very low triangle (nearly curved line), posterior ocelli above the supraorbital line; postocellar line shorter than ocellocular line; ocellar furrow distinct, postocellar area distinctly defined, about twice as broad as long, and divided by a middle, short, depressed line; stigma rounded below, truncate apically; first recurrent vein received about the middle of second cubital cell.

second recurrent at basal third of the third; sheath rounded below, straight above, obtusely pointed apically.

Male: Body length 5.5 mm.; length of antennae 5.5 mm.; length of anterior wing 6 mm.

Similar to the above description of the female except that the antennae are longer and more hairy and the body more slender.

Described from four females (one, type) and two males (one, allotype) collected by the writer April 20, 1924 and April 22, 1925.

Type locality: Suigen, Korea.

***Aphymatocera* SATO new genus**

Belongs to *Phymatocerinae* defined by S. A. ROHWER and very closely allied to *Zaphymatocera* from which it is separated by the following characters:

1. Inner margins of eyes parallel.
2. Posterior orbits without the furrow-like depression along the eye.
3. Interradius received just beyond the middle of the third cubital cell; basal vein joining subcosta considerable distance from origin of the cubitus; recurrentella wanting.

Type of genus: *Aphymatocera coreana* SATO

***Aphymatocera coreana* SATO new species**

Female: Body length 6 mm.; length of antennae 3.2 mm.; length of anterior wing 6.5 mm.

Color similar to *Pseudophymatocera typica* SATO except that anterior margin of clypeus is more or less whitish, and abdomen entirely black.

Clypeus flat; supraclypeal foveae confluent with antennal foveae; supraclypeal area trapezoidal in outline; median fovea large; antennal furrows nearly complete; ocellar basin very poorly indicated; ocelli in a curved line, posterior ocelli above the supraorbital line, postocellar line shorter than the ocellar line; postocellar area distinctly defined, broader than long, without median depressed line; frons and vertex with minute punctures; mesonotum granular; mesopleura nearly impunctate with gray pubescence; stigma rather short, rounded below; first recurrent vein received about the middle of second cubital cell, second recurrent received by the third cubital, the length of the second interradius; petiole of anellal cell longer than nervulus; sheath obtusely pointed, straight above, rounded below.

Male: Similar to the female except that the antennae are distinctly bristle-shape, long and with short, erect hairs. Hypopygidium slightly depressed in apical part and subtruncate.

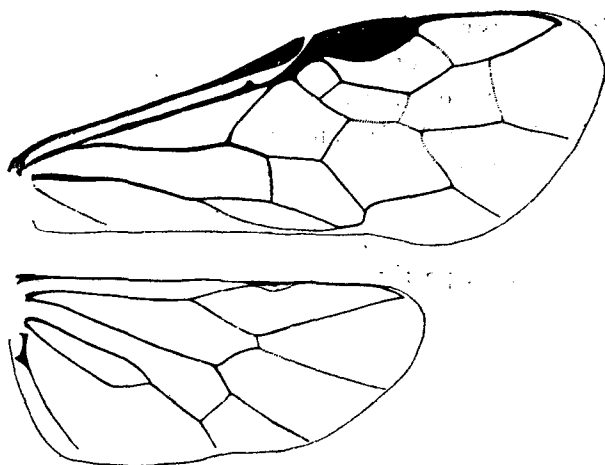


Fig. 3.

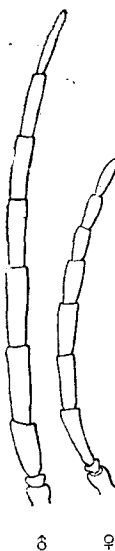
Aphymatocera coreana SATO (♀)

Fig. 4.

Aphymatocera coreana SATO

Described from two females (one, type) and a male collected by the writer April 18, 1924 and April 25, 1924.

Type locality: Suigen, Korea.

***Phymatoceriola* SATO new genus**

Belongs to *Phymatocerinae* defined by S. A. ROHWER.

Malar space entirely wanting; clypeus truncate anteriorly; inner margins of eyes slightly converging below; posterior orbits narrow, without carina; pentagonal area obsolete; female antennae filiform, with short erect hairs, each joint somewhat widened apically, pedicellum a little wider than long, the third a little shorter than the fourth, and equal to the fifth in length; prepectus of the mesepisternum narrow but distinct; venation similar to *Phymatocera aterrima*, third cubital cell longer on the cubitus than the first and second combined, basal vein longer than the first recurrent and parallel with it, radiellian cell pointed at apex, recurrentella present, anellian cell long petiolate; posterior tibiae subequal with the tarsi, posterior basitarsus equal to the following three joints together, tarsal claws simple.

This genus is very closely related to *Phymatocera*, but is easily distinguished by having the simple tarsal claws.

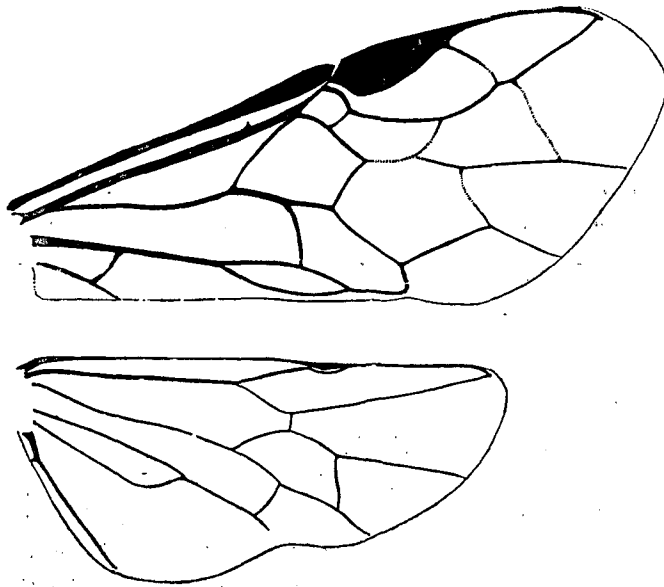
Type of genus: *Phymatoceriola suigenensis* SATO

***Phymatoceriola suigenensis* SATO new species**

Female: Body length 5.5 mm.; length of antennae 3 mm.; length of anterior wing 6 mm.

Body entirely black; front parts of femora, tibiae and tarsi of anterior and middle legs very slightly brownish; wings infuscated especially towards the base, costa and stigma blackish brown, other nervures black.

Clypeus a little depressed at latero-apical angles, with very minute punctures, supraclypeal foveae rounded, distinct; median fovea not so deep; antennal furrows deepened at each side of the median fovea; ocelli in a curved line, post-ocellar line subequal with the ocellocular line which is much longer than the ocelloccipital line; postocellar area poorly defined; frons and vertex with very

**Fig. 5.***Phymatoceriola suigenensis* SATO (♀)**Fig. 6.***Phymatoceriola suigenensis* SATO (♀)

fine punctures and blackish hairs; mesonotum with minute punctures; mesopleurae nearly impunctate, with fine pubescence; stigma pointed apically; inter-radius received at the apical fifth of the third cubital cell, first recurrent received at the middle of the second cubital, second recurrent received at basal third of the third cubital cell, the second intercubitus directed noticeably inwards, the petiole of anellan cell much longer than the nervellus; sheath rather long obtusely pointed.

Described from two females collected by the writer April 22, 1924.

Type locality: Suigen (Kasan), Korea.

***Apareophora* SATO new genus**

This genus is closely related to *Pareophora* KONOW, from which it may readily be separated by the absence of a closed discoidellan cell. This character is very constant in the species of this genus.

Malar space distinctly present; clypeus truncate anteriorly; inner margins of eyes parallel; pentagonal area obsolete or nearly so; posterior orbits without carina; antennae short; stout and bristle-shaped, pedicellum as wide as or wider than long, the third longer than the fourth; basal vein longer than the first recurrent and parallel with it, nervulus joining a little before the middle of the cell, radiellian cell somewhat pointed at apex, recurrentella absent, anellian cell long petiolate; posterior tibiae longer than tarsi, posterior basitarsus shorter than the following joints; tarsal claws simple.

Type of genus: *Apareophora forsythiae* SATO

Two genera belong here are separated as follows:

Third antennal joint subequal with the fourth and fifth together; latero-posterior parts of pronotum brownish yellow; the first intercubitus very frequently wanting. *A. forsythiae* SATO
 Third antennal joint one-fifth longer than the fourth; pronotum entirely black; the first intercubitus always present. *A. coreana* SATO

***Apareophora forsythiae* SATO new species**

Female: Body length 7.5 mm.; length of antennae 2.5 mm.; length of anterior wing 7.5 mm.

Black, variegated with yellowish brown; labrum, mandibles (except fuscous apices), palpi, latero-posterior parts of the pronotum, tegulae, most of the abdomen (except the first mostly, the second to the seventh tergites posteriorly and the sternites more or less blackish), most of the anterior legs and middle and posterior legs below the apices of the femora yellowish brown; lateral lobes of mesonotum and mesopleurae more or less brownish, sheath brown; wings clear hyaline, costa and stigma brownish yellow, the other nervures black or dark brown.

Labrum very small, for the most part hidden under the clypeus; clypeus slightly convex with distinct punctures; supraclypeal area small; supraclypeal foveae confluent with antennal foveae, forming large and deep ones; median fovea large and transverse; ocellar basin nearly wanting; anterior ocellus in a shallow depression; antennal furrows incomplete; a distinct punctiform depression at each side of the frontal crest which is nearly complete and curved upwards at the above mentioned depression; ocelli in a low triangle, ocellocular line shorter than postocellar line and longer than ocelloccipital line; interocellar and

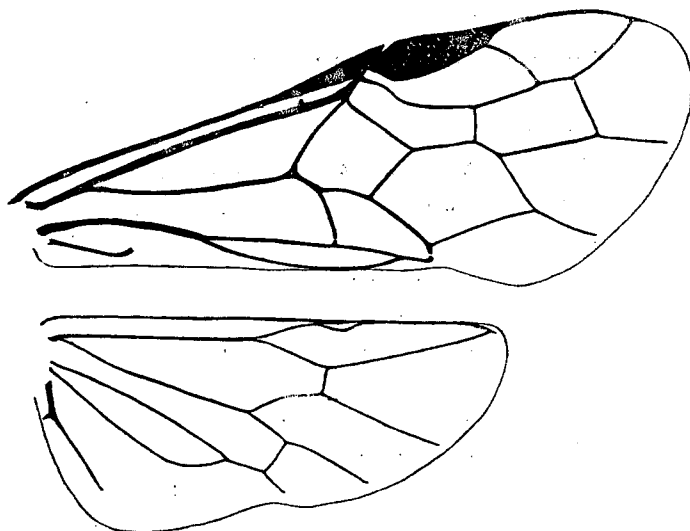


Fig. 7.

Apareophora forsythiae SATO (♀).....

ocellar furrows distinct; postocellar area distinctly defined, about twice as wide as long, with a shallow median furrow; antennae bristle-like, short, subequal to head and thorax together in length; pedicellum as long as its apical width, third segment the longest and subequal to the fourth and fifth together, the last joint subequal to the preceding one in length; vertex and posterior orbits with very minute punctures and dark hairs; mesonotum finely granular; scutellum moderately convex; mesopleurae impunctate, smooth with whitish pubescence; stigma pointed apically; interradius received at apical third of the third cubital cell, third intercubitus entirely straight, first intercubitus very frequently atrophied in part or entirely, first recurrent received before middle of second cubital cell, second recurrent received at basal fifth of third cubital cell, nervellus received a little before the middle of the cell, the petiole of the anellan cell a little shorter than the nervellus; sides of sheath parallel, truncate apically.

Male: Body length 6 mm.; length of antennae 2.5 mm.; length of anterior wing 6 mm.

Differs from the female in the following points:

1. Mesonotum, pleurae and abdomen entirely black.
2. Antennal joints beyond the third constricted basally.
3. Hypopygium broadly truncate apically.

The coloration of the female is variable in individuals, some examples with the abdomen entirely yellowish brown and the pleurae dark brown.

Observation on the atrophying of the first intercubitus are as follows:

- a. Completely or partly present in either left or right pair,
46 examples, female 25; male 21.
- b. Completely absent in both pairs,
53 examples, female 25; male 28.

Described from many females (one, type) and male (one, allotype) collected by the writer during April and May 1924-1926.

The larvae of this species is considered the most serious pest on *Forsythia* at Suigen, Korea. The characteristics and life history of this insect will be described by the writer in another paper.

Type locality: Suigen, Korea.

Apareophora coreana SATO new species

Female: Body length 6 mm.; length of antennae 2.5 mm.; length of anterior wing 6 mm.

Black; mandibles testaceous; tegulae, legs below apices of femora straw white; wings clear hyaline, stigma and nervures dark brown, basal third of costa white.

Head with grayish pubescence, frons and vertex nearly impunctate; clypeus flat with punctures, supraclypeal area impunctate; supraclypeal foveae confluent with the antennal foveae; median fovea broad, shallow and scarcely indicated; ocular basin wanting; very small, indistinct punctiform foveae above the antennae; ocelli in a low triangle, postocellar line a little longer than the ocellar line; antennal interocellar and ocellar furrows nearly wanting; postocellar area very poorly indicated, wider than long; posterior orbits with minute punctures; antennae short, stout, bristle-like, pedicellum a little wider than long, the third one-fifth longer than the fourth which is subequal to the fifth, the last joint longer than the preceding one; mesonotum with very minute shallow punctures; mesopleurae impunctate, with fine pubescence; stigma rounded below, pointed apically; interradius received at apical fifth of the third cubital cell, first intercubitus always present, third intercubitus very slightly curved inward at the middle, first recurrent received at basal fourth of the second, second recurrent received at basal fifth of the third cubital cell, nervulus just before the middle of the cell, petiole of anellan cell a little longer than the nervellus; sheath rounded below and apically.

In some specimens the apical segment presents a whitish, marginal, narrow band.

Male: Body length 5 mm.; length of antennae 3 mm.; length of anterior wing 5.5 mm.

Antennae comparatively long and more distinctly bristle-shaped. Hypopygi-

dium rounded apically.

In one paratype (male) the interradius is entire, the third intercubitus for the most part wanting.

Described from many females (one, type) and males (one, allotype) collected by the writer during April and May 1924-1925.

Type locality: Suigen, Korea.

Okamotoni SATO new genus

This genus belongs to *Cimbicinae* and is related to *Cimbex*, *Cimbicisoma* and *Trichisoma*, but differs from these three as follows:

1. Posterior femora toothed beneath; labrum large, well exerted; second postellan cell without cross vein (axillarnerv of KONOW) *Trichisoma* LEACH
- Posterior femora simple 2.
2. Labrum large, well exerted; second postellan cell without cross vein *Okamotoni* SATO
- Second postellan cell with a cross vein 3.
3. Labrum large, well exerted *Cimbicisoma* ROHWER
- Labrum small, not or but scarcely exerted *Cimbex* OLIVIER

Body not hairy; labrum large and well exerted, its apical margin rounded; apical margin of clypeus slightly emarginate medianly; posterior orbits moderately widened, without carina; antennae seven-jointed, the third subequal in length to the following three joints together, the last joint distinctly longer than the preceding one; venation as in *Trichisoma*; propodeum faintly emarginate posteriorly; posterior femora simple; tarsal claws simple.

Type of genus: *Okamotoni* *kurisuei* SATO.

Cimbex yorofui MARLATT may belong to this genus, but these two species are separated as follows:

Antennae reddish brown; posterior orbits with broad, brown bands along its caudal margin, which extend to the vertex and unite with each other; ocellar furrow distinct; mesonotum opaque black; scutellum reddish brown; on the anterior wing the radial cells, most of the first, upper part of the second (third) and third (fourth) cubital cells along the radius, first discoidal, median, submedian, anal (first and second) and posterior cell infuscate.

From Korea *Okamotoni* *kurisuei* SATO

Antennae blackish brown except the basal two joints which are bright yellow; posterior orbits (except lower part) and vertex including frons above antennae black, with a coppery green tinge; ocellar furrow indistinct; mesonotum black, with a coppery green tinge; scutellum yellow; on the anterior

wings the radial cells, most of the first, upper part of the second and third cubital cells along the radius and first discoidal cell infusate.

From Japan proper *Okamotonius yorofui* (MARLATT)

This genus is named for Dr. H. OKAMOTO who was the first entomologist of the Agricultural Experiment Station at Suigen, Korea, and from whom the writer received many valuable suggestions.

***Okomotonius kurisuei* SATO new species**

Mandibles (except the reddish brown apices), labrum, clypeus (including supraclypeal area), pronotum, propodeum (except narrow base), the fourth to ninth tergites (basal parts more or less blackish) and basal extremities of femora yellow; antennae, most of the posterior orbits and occiput, vertex along the occiput, tegulae, scutellum, postscutellum, apical margins of second and third tergites; most of the abdominal sternites including the sheath, apices of coxae, most of trochanters, lower surface of the femora and most of the tibiae and tarsi reddish brown or yellowish brown; other parts of body black or blackish, the frons above the antennae with a coppery green tinge; wings yellowish hyaline; stigma yellowish brown; nervures dark brown except the yellowish interradius; the radial cells, most of the first, upper parts of the second and third along the radius, the first discoidal, median, submedian, anal and posterior cells clouded with fuscous.

Labrum large and well exerted, widened towards apex, a little wider than long, its lateral margins sub-carinate, with an indistinct median carina and few fuscous hairs on latero-apical parts, without punctures; clypeus flat, its apical margin very slightly emarginate, impunctate, with few hairs; supraclypeal fovea distinct, elongate, oblique; supraclypeal area confused with clypeus; median fovea large, opened upward; ocelli in an equi-lateral triangle, postocellar line shorter than the ocellocular line; postocellar area distinctly defined, flat, with an indistinct median carina, narrowing anteriorly, longer than wide; frons and vertex finely granular; anterior lateral margins of the pronotum tuberculate; mesonotum with fine separate punctures; mesopleurae very finely granular; mesosternum with a coppery green tinge and fine separate punctures; propodeum impunctate and smooth; other abdominal segments finely granular; sheath obtusely pointed; the interradius received at the middle of second (third) cubital cell, the second recurrent received by the first (second) cubital cell, being about the length of the first (second) intercubitus; the internal vein very short as in *Praia*.

Described from a single female collected by Mr. T. KURISUE for whom the species is named, July 28, 1924.

Type locality: Mt. Kongo (Diamond Mountain), Korea.

—(to be continued)—

摘 要

朝鮮産葉蜂類

朝鮮産葉蜂類に關する分類的研究は從來殆んど未開の域にあり、記録せられたるもの僅かに十種に充たず。著者は最近數年間その地に於て寄生昆蟲研究のかたはら葉蜂類の蒐集につとめ、今や二百種以上に達せり。その内本邦内地、支那及びヨーロッパ産と共通するもの少なからず雖も、尙新屬或は新種とすべきもの多數を發見せり。しかも著者の採集區域いまだ普れからず。従つて將來尙多數發見せらるべきは疑ひなきを以て、著者の企圖せる朝鮮産葉蜂類の總括的研究は後日に譲り、今は分類的の順序に従はず、新屬或は新種の發表に止めんとす。但し既に研究を終りたる部類に關しては既知種の記録にも及ぶことあるべし。

翅脈の命名は 1916 年 ROHWER 及び GAHN 兩氏によりて提唱せられたる方式に従り。

此の項に發表せる新種は次の八種にして、その内七種(1-7)は亞科 *Blennocampinae* に、他の一種(8)は 亞科 *Cimicinae* に屬するものなり。

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| 1. <i>Tomostethopsis</i> (n. g.) <i>metallicus</i> SATO (n. sp.) | ルリマルハバチ |
| 2. <i>Atomostethus</i> <i>flavicollaris</i> SATO (n. sp.) | キエリマルハバチ |
| 3. <i>Zaphymatocera</i> (n. g.) <i>typica</i> SATO (n. sp.) | オスヒゲナガハバチ |
| 4. <i>Aphymatocera</i> (n. g.) <i>coreana</i> SATO (n. sp.) | オスヒゲナガハバチモドキ |
| 5. <i>Phymatoceria</i> (n. g.) <i>suigenensis</i> SATO (n. sp.) | チビヒゲナガクロハバチ |
| 6. <i>Apareophora</i> (n. g.) <i>forsythiae</i> SATO (n. sp.) | レンギョウハバチ |
| 7. <i>A.</i> <i>coreana</i> SATO (n. sp.) | マルガタハバチ |
| 8. <i>Okamotoius</i> (n. g.) <i>kurisuei</i> SATO (n. sp.) | ヒメアシブトハバチ |

此の研究につきて多大の助力を賜はりたる農學博士岡本半次郎氏、矢野宗幹氏、標本を分譲下されたる高木五六、長谷川勇之助、栗末只雄、家入一雄の諸氏及び英文の修正につき助力を與えられたる T. R. GARDNER 氏に深謝の意を表す。